

Application Type Renewal
Facility Type Pesticides
Permit Type Individual

**NPDES PERMIT FACT SHEET
PESTICIDES**

Application No. PA0272612
APS ID 800776
Authorization ID 1462837

Applicant and Facility Information

Applicant Name	<u>US DOI Fish & Wildlife Service</u>	Facility Name	<u>Usfws Pesticides</u>
Applicant Address	<u>5050 Commerce Drive</u> <u>Ludington, MI 49431-9308</u>	Facility Address	<u>Tributary streams to Lake Erie</u>
Applicant Contact	<u>Jenna Tews</u>	Facility Contact	<u></u>
Applicant Phone	<u>(231) 690-3303</u>	Facility Phone	<u></u>
Client ID	<u>214295</u>	Site ID	<u>768347</u>
SIC Code	<u>4959</u>	Municipality	<u>Multiple Townships</u>
SIC Description	<u></u>	County	<u>Erie and Crawford County</u>
Date Application Received	<u>September 26, 2023</u>	WQM Required	<u>No</u>
Date Application Accepted	<u></u>	EPA Waived	<u>No</u>
Purpose of Application	<u>Lampricide Treatment of tributary streams to Lake Erie to control Sea Lamprey (<i>Petromyzon marinus</i>) populations.</u>		

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Brief Description of Project and Discussion:

The United States Fish and Wildlife Service (USFWS) Sea Lamprey Control Program (SLCP) has applied for a renewal to their existing NPDES (PA0272612) and Joint 91.38 permit (Permit # 2518801) to treat tributaries to Lake Erie in Pennsylvania to control invasive sea lamprey (*Petromyzon marinus*) populations. The current NPDES permit is PA0272612, which was issued on April 16, 2019 with an expiration date of April 15, 2024. The USFWS SLCP has plans to conduct a treatment on Conneaut Creek in 2024 with projected treatment windows occurring between April 23 – May 2, 2024 with an alternative treatment window between May 7 – May 15, 2024. Previous permit renewals authorized applications of TFM, a chemical lampricide, to three (3) streams; Conneaut Creek (including the East and West Branches), Crooked Creek and Raccoon Creek. In the 2019 application renewal and again in the 2024 application renewal, the USFWS SLCP is asking for authorization for the option to treat any tributary stream to Lake Erie within Pennsylvania under the new permit cycle if populations of sea lampreys are found in the waterbody. The USFWS SLCP will submit a *Letter of Treatment Concurrence* to the Department (PADEP) and Pennsylvania Fish and Boat Commission (PFBC) each year that treatments are to occur in Pennsylvania waters

Approve	Deny	Signatures	Date
		Joe Brancato / Aquatic Biologist Supervisor	
		Eric Kicher / Environmental Group Manager	
		Justin Dickey, P.E. / Environmental Group Manager	

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Although the USFWS SLCP has asked for the option to treat additional streams if sea lampreys are found, there are currently no plans to treat these additional tributaries with TFM (Jenna Tewes, Supervisory Fish Biologist, USFWS SLCP, personal communication).

The USFWS SLCP provided detailed maps of treatment locations for Conneaut Creek, Crooked Creek and Raccoon Creek and a “mouth” location for the additional tributaries on maps and an excel spreadsheet that accompanied their permit application.

The lampricide applicator listed in the permit is the USFWS, 5050 Commerce Drive, Ludington, MI. 49431. The USFWS intends to apply the lampricides “TFM liquid” and “TFM Bar” to portions of tributaries of Lake Erie when populations of larval and ammocoete sea lamprey exist. The USFWS is required by the Pennsylvania Department of Agriculture (PDA) to have a business license and certified applicators on site to conduct these treatments. TFM is metered in at a pre-determined PRIMARY application point (i.e. upstream application site) with downstream BOOST application points where a TFM dose is added to the mainstem and VOLUMETRIC FLUSH sites added at the mouths of larger tributary streams. The goal for effective treatment is to maintain a 9 to 12-hour exposure bank of TFM. TFM breaks down quickly in the environment and does not bioaccumulate. Both are registered with EPA and are approved for aquatic environments and strictly used by the USFWS SLCP.

In addition to TFM, Niclosamine (granular Baylucide), is also listed in the permit application. Niclosamine is used strictly in deep, turbid areas and could be applied offshore in Lake Erie near the mouths of creeks with potential infestations. The USFWS has not used this treatment option in Pennsylvania for at least the last three permit cycles. TFM and Niclosamine (Baylucide) have been used in sea lamprey control since 1963 in Great Lakes tributaries in both the United States and Canada.

There are no known state and/or federal listed threatened and endangered freshwater mussel species known to occur within any of the treatment areas listed in the permit. However, the Salamander Mussel, *Simpsonaias ambigua*, which is a state listed endangered species has been found in Conneaut Creek in Ohio within one mile of the Pennsylvania border. The USFWS has also proposed *Simpsonaias ambigua* for Federal Listing and maintain Critical Habitat for the entire treated portion of Conneaut Creek in Pennsylvania and Ohio. In addition, the snuffbox mussel, *Epioblasma triquetra*, a state and federal listed endangered species, is known to occur in the Lake Erie drainage. Several additional freshwater mussels listed as “Rare” by PFBC occur in Conneaut Creek; Round Pigtoe (*Pleurobema sintoxia*), Elktoe (*Alasmidonta marginata*), Rainbow Mussel (*Villosa iris*), Creek Heelsplitter (*Lasmigona compressa*) and Fragile Papershell (*Leptodea fragilis*). The Common Mudpuppy (*Necturus maculosus*, the host for the Salamander Mussel) is also listed as “Rare”.

There are state listed threatened and endangered fish species known to occur in Conneaut Creek within the treatment areas listed in the permit application. These fishes include the state endangered Northern Brook Lamprey, *Ichthyomyzon fossor*, Redfin Shiner, *Lythrurus umbratilis*, Hornyhead Chub, *Nocomis biguttatus*, Eastern Sand Darter, *Ammocrypta pellucida* and Warmouth (*Chaenobryttus gulosus*. The state threatened Spotted Sucker, *Minytrema melanops* and Brindled Madtom, *Noturus miurus* also occur within the treatment area. The only known occurrence of the northern brook lamprey in Pennsylvania occurs in the East Branch Conneaut Creek. No TFM treatments will be allowed to occur upstream of the Albion Wastewater Treatment Plant in this drainage basin.

Brief description of historical treatments to tributary streams to Lake Erie in Pennsylvania: The first three (3) streams listed, Conneaut Creek, Crooked Creek and Raccoon Creek have historically been treated with TFM

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lampricide. Conneaut Creek has historically been treated eleven (11) times (i.e. 1986, 1990, 1995, 2000, 2003, 2006, 2008, 2009, 2013, 2015, 2018). Raccoon Creek has been treated nine (9) times with the last treatment in 2022. Crooked Creek has been treated eleven (11) times with the last treatment in 2019. The West Branch of Conneaut Creek was last treated in 2019. The East Branch of Conneaut Creek was last treated in 2018. No other tributary streams in this permit have been treated with lampricide in the past.

Conneaut Creek (SC62719) flows to Lake Erie and is designated and protected for Warm Water Fishes (WWF) and Migratory Fishes (MF) according to the Department's Chapter 93 Water Quality Standards, Drainage List X. Tributaries to Conneaut Creek, including Fish Creek (SC63568), are designated and protected for Cold Water Fishes (CWF) and MF. Conneaut Creek and Fish Creek are attaining these designated uses.

Crooked Creek (SC62656) is a special protection stream and designated and protected for High-Quality Coldwater Fishes (HQ-CWF) and MF. Raccoon Creek (SC62689) is designated and protected for CWF.

The USFWS, during the last permit cycle in 2019, requested that additional tributaries be added to the permit if sea lamprey are found so that the possibility for TFM treatments could occur. The PADEP granted this request. These streams include thirty (30) Unnamed Tributaries (UNT) To Lake Erie and 13 additional named streams. An entire list of streams was provided by the USFWS SLCP in an Excel spreadsheet format. This list includes the stream name and stream code, GPS coordinates at the mouth, maximum concentration of TFM (ppm) to be used if a treatment occurs, the Chapter 93 designated use and the current assessment status.

The PFBC stocks several of these tributaries with adult (hatchery) trout for recreational put and take fishing opportunities and rainbow trout (steelhead) smolts and brown trout for the Lake Erie Put-Grow-and-Take fishery. Streams that receive annual adult trout include Conneaut Creek, Cascade Creek, Crooked Creek, Elk Creek and Twentymile Creek. These trout stockings occur the day before the opening of the statewide trout season. There is normally an additional in-season stocking each year. Steelhead smolts are stocked annually in most named tributaries to Lake Erie. Smolt stockings normally occur from late February to early April each year.

There are currently eight (8) public water supply systems regulated by the PADEP in potentially affected treatment areas. Three (3) of these systems have intakes in Lake Erie. Given the distance, travel time and dilution afforded at the treatment reach and Lake Erie, it is anticipated that there will be no impact to these water supply systems. The other five (5) systems have intakes on potentially treated waterways. No TFM treatments will be allowed to occur on streams where these systems exist (see Special Conditions).

The PFBC has reviewed the joint 91.38 Permit and the PADEP has verified application and dosage rates in coordination with the PFBC. The PFBC has requested additional restrictions to the PADEP with Special Conditions on treatment locations and timing, dosage rates and public notification requirements. The PADEP will include these Special Conditions in the NPDES Permit PA0272612 and 91.38 joint permit renewals.

The USFWS SLCP Standard Operating Procedures (SOP) and Pesticide Discharge Management Plan (PDMP) for lampricide treatments can be viewed at <http://www.glfsc.org/sealamp/sop.php>.

During this next permit cycle, scheduled treatments include only Conneaut Creek (Spring 2024). The treatment reach will occur from Fisher Road near the town of Conneautville downstream to the PA/OH border. The Ohio portion of Conneaut Creek will also be treated at that time. Boost locations will occur on the West and East Branches of Conneaut Creek near the confluence of these tributary streams. Additional treatments could possibly occur if sea lamprey populations are found to exist during this next permit cycle. Treatments for Conneaut Creek will only occur if the flow is ≥ 100 cfs at the PA/OH border.

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Concentration rates of TFM listed in the permit application – TFM concentrations in Conneaut Creek main stem is not to exceed 5 ppm in lower Conneaut Creek (i.e. downstream of Fish Creek) and 4 ppm in upper Conneaut Creek. However, for the 2024 TFM treatment on Conneaut Creek, the concentration of TFM shall not exceed 1.3x MLC, which equates to a concentration of less than 4 ppm. For future TFM treatments on Conneaut Creek during this permit cycle, if the USFWS SLCP intends to use a dosage rate higher than the rates listed above, consultation between the PADEP, PFBC and USFWS SLCP will occur. Additional tributary streams to Lake Erie scheduled for treatment during this permit cycle, the concentration of TFM shall not exceed 8 ppm. This includes tributaries to Conneaut Creek (i.e. East and West Branches). However, any concentration bank entering Conneaut Creek main stem shall not exceed 4 ppm or approximately 1.3x MLC without consultation between the PADEP, PFBC and USFWS SLCP. The TFM concentration limits set forth above are being maintained in the renewal permit to protect non-target aquatic life, including T&E species of concern.

On January 9, 2019, a meeting was held in Erie, PA between PADEP, PFBC, USFWS SLCP and the Great Lakes Fisheries Commission (GLFC) to discuss the permit renewal and fish and freshwater mussel mortality that occurred during the treatment of Conneaut Creek in April of 2018. Agenda items included: (1) PADEP Conneaut Creek fish kill investigation and background to the current permit, (2) PFBC fishery and freshwater mussel surveys of Conneaut Creek in 2018, (3) GLFC responsibility for sea lamprey control and the USFWS role as the Commission's agent, (4) Sea lamprey larval assessment data and history of treatments in Conneaut Creek, (5) USFWS treatment of Conneaut Creek, April 2018, (6) USFWS non-target mortality observations and collections, (7) Discussion of proposed draft permit and special conditions. This meeting shaped additional permit renewals and treatments moving forward.

Fish, mudpuppy and freshwater mussel mortality were significant in the mainstem of Conneaut Creek during the TFM application in April of 2018. The PADEP Clean Water Program Aquatic Biologists investigated the fish, mudpuppy and mussel kill several days post-treatment. The results of the investigation are on file and can be found in the Department's NWRO Records Center. The document is titled *Aquatic Biology Investigation, Pollution Event / Fish and Freshwater Mussel Kill, Conneaut Creek (SC 62719), Beaver and Springfield Townships, Crawford and Erie Counties, May 23, 2018*.

A meeting was held on January 24, 2024 between the PADEP, the PFBC, the USFWS SLCP and the USFWS Ecological Services and Endangered Species Unit. Topics included treatment regimes for Conneaut Creek, the Biological Assessment (BA) submitted by the USFWS SLCP in November 2023 and the proposed listing of Critical Habitat for the salamander mussel for Conneaut Creek by the USFWS and potential consultation between the USFWS SLCP and the USFWS Ecological Services Endangered Species Unit. The PFBC submitted a Biological Opinion (BO) of the BA and a Species Impact Review on February 16, 2024 to satisfy the Pennsylvania Natural Diversity Inventory (PNDI) inquiry.

The USFWS SLCP submitted a *Biological Assessment (BA) for the Application of TFM in Conneaut Creek, Pennsylvania (November 2023)*. The BA was required in the last permit cycle to address sensitive species that needed to be resolved with the PFBC in Conneaut Creek. The PFBC issued a Biological Opinion (BO) of the BA titled *Effects of Sea Lamprey Control on State Listed Fish and Mussel Species within Conneaut Creek, Crawford and Erie Counties, Pennsylvania (February 16, 2024)*. The Biological Assessment – Biological Opinion process is pursuant to 58 §75.4(1)(iii) of the Pennsylvania Code. Based on the BA and BO, the PFBC issued a Special Permit through a Species Impact Review (SIR) that authorizes the incidental take of the state endangered northern brook lamprey (25 animals), the state threatened brindled madtom (30 animals) and the common mudpuppy (50 animals), the host of the state endangered salamander mussel. The SIR Special Permit satisfies the Pennsylvania Natural Diversity Inventory (PNDI) inquiry by the USFWS SLCP regarding the potential conflicts with threatened and endangered species. Take for all other Listed species was estimated to be zero.

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Special Conditions for NPDES Permit PA0272612 and 91.38 Joint Permit 2518801

The following Special Conditions will be included in the Individual NPDES and Joint 91.38 Permit.

1. Streams treated with “TFM” will follow the most recent USFWS lampricide control Standard Operating Procedures (SOP) and Pesticide Discharge Management Plan (PDMP).
2. For the 2024 treatment on Conneaut Creek – TFM concentration in Conneaut Creek main stem shall not exceed 1.3x MLC (4 ppm). Concentration banks entering Conneaut Creek main stem from tributaries shall not exceed 1.3x MLC (4 ppm). If the USFWS SLCP intends to treat with TFM greater than the concentration of 1.3x MLC on any portion of Conneaut Creek during this permit cycle, the SLCP will require prior approval from PADEP and PFBC.
3. The USFWS will immediately contact the Department and PFBC Bureau of Law Enforcement and Division of Environmental Services if observed mortality of non-target organisms occurs during or after lampricide treatments and according to their “Adverse Incident” reporting requirements.
4. Contact the PFBC Northwest Regional Office, law enforcement (RA-FBNWRLE@pa.gov or 814-337-0444 and PFBC Division of Environmental Services (hsmiles@pa.gov or 814-359-5237), at a minimum of 48-hours prior to any lampricide application on Lake Erie tributary streams approved for treatment within this permit cycle.
5. East Branch Conneaut Creek drainage – no TFM treatment or activity resulting in the mortality of fishes is to occur above 41°53’36.09”N -80°22’34.79”W upstream of the sewage treatment facility located 0.52 miles upstream from the mouth of the East Branch Conneaut Creek to protect the only known Northern Brook Lamprey population in Pennsylvania.
6. Conneaut Creek drainage upstream of Fish Creek (mainstem only) – given the presence of the state endangered Hornyhead Chub (*Nocomis biguttatus*), TFM concentration is not to exceed 4 ppm. Any future request for an increase in concentration will require additional toxicity studies that includes a focus on young-of-year and juvenile fish.
7. Any observed mortality of Pennsylvania threatened or endangered (T&E) species is to be reported to the PFBC Division of Environmental Services and curban@pa.gov or 814-359-5237) and the PADEP Clean Water Program (jbrancato@pa.gov or 814-332-6942). Dead specimens are to be retained, preserved and submitted to PFBC. For a current listing of PA T&E species consult Chapter 75 of the Fish and Boat Code www.fishandboat.com/Resource/SpeciesofSpecialConcern.
8. If additional information regarding T&E species is confirmed via surveys conducted by the PFBC, PADEP or outside research sources in potentially treated waterways listed within this permit, the PADEP reserves the right to alter treatment operations in the permit in that particular waterway at any time.
9. For mainstem Conneaut Creek – after treatment, the USFWS will provide to the PADEP and PFBC Division of Environmental Services (hsmiles@pa.gov) TFM analysis graphs from each treatment location detailing time of TFM/pH sampling, desired TFM concentration, actual TFM concentration, pH MLC and TFM MAC.
10. The SLCP will present to PFBC and PADEP the methods, results, and discussion of ongoing or proposed lampricide toxicity studies involving Salamander Mussel adults and juveniles.
11. The SLCP will present to the PADEP and PFBC the methods, results, and discussion of a Mudpuppy population estimate study for the entirety of the Conneaut Creek treatment area. This study is necessary to inform PFBC and USFWS about the portion of the estimated Salamander Mussel host population that will be

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taken during future lampricide treatments. This study is required to occur the year before a proposed treatment. PFBC acknowledges that a portion of the Mudpuppy population will be adversely impacted during the 2024 treatment and the population will be initially reduced after treatment.

12. Efforts by the SLCP, similar to previous years, will be made to locate, capture, and revive Mudpuppies that appear to be stressed during the treatment. After recovery, these Mudpuppies are to be released back to Conneaut Creek near their capture site and after the lampricide concentration has diminished. PFBC acknowledges the long-term efficacy of this best management practice are unknown and encourages further SLCP research on the recovery of treated Mudpuppies affected by lampricide treatment.
13. **Reporting of Dead Listed Species found on the project site.** Any dead specimens of listed species that are found within the project action area shall be clearly photographed and frozen to preserve biological material in the best possible state. In conjunction with the preservation of any dead specimens, the observer has the responsibility to ensure that evidence intrinsic to determining the cause of death of the specimen is not disturbed. The finding of dead specimens does not imply enforcement proceedings pursuant to Section 2305 of the Fish and Boat Code (Act 1980-175, Title 30). The reporting of dead specimens is required within 24 hours to enable the PFBC to determine if species take is reached or exceeded and to ensure that the permit conditions are appropriate and effective. Upon locating a dead specimen, the SLCP or its representatives must notify the Pennsylvania Fish and Boat Commission's Division of Environmental Services, 814-359-5237 or curban@pa.gov.
14. **Consultation Re-initiation Procedures.** SLCP staff or their representatives shall reinitiate consultation with the PFBC regarding this project under the following circumstances:
 - a) The amount or extent of take is exceeded;
 - b) New information reveals effects of the proposed project that may affect listed species in a manner or to an extent not considered in the Biological Opinion (BO);
 - c) The proposed project is subsequently modified in a manner that causes an effect to the listed species not considered in the BO;
 - d) In instances where the amount or extent of take is exceeded, any project activities causing such take must cease pending re-initiation.
15. The USFWS will submit a Letter of Treatment Concurrence to the PADEP and PFBC each year that treatments are to occur in Pennsylvania waters
16. The USFWS will provide to the PADEP final reports of surveys conducted on any potentially treated streams listed in this permit. This would include Aquatic Biological Investigations and Positive Stream Analysis (PSA) to determine population estimates / age structure of sea lampreys both pre- and post- lampricide treatment. Each year of the permit, the USFWS will provide to the PADEP a workplan of all sampling events planned on potentially treated streams in Pennsylvania.
17. Contact the PADEP Clean Water Program Aquatic Biologist Supervisor (jbrancato@pa.gov or 814-332-6942), at a minimum of 48-hours prior to any lampricide application on Lake Erie tributary streams approved for treatment within this permit cycle.
18. No lampricide treatments are to occur upstream of a water intake structure on Unnamed Tributary (UNT 62657) To Crooked Creek, which parallels Ables Road and enters from the East near Youngstown YMCA Camp Fitch to protect their water supply. The water intake structure is located at 42°00'13.3632 N -80°25'31.4868 W.

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19. No lampricide treatments are to occur on Unnamed Tributary (UNT 62683) To Lake Erie, near Camp Lambec (known to USFWS as Camp Lambec Creek #1) to protect their water supply.
20. No lampricide treatments are to occur on Unnamed Tributary (UNT 62384) To Sixmile Run at Woodhaven Mobile Home Park to protect their water supply.
21. No lampricide treatments are to occur on Unnamed Tributary (UNT 62277) To Sixteenmile Creek, near Grahamville Reservoir to protect the Northeast Borough water supply.
22. No lampricide treatments are to occur on Unnamed Tributary (UNT 63798) To Sixteenmile Creek, near Smith Reservoir to protect the Northeast Borough water supply.
23. The USFWS shall notify the City of Erie Water Authority at a minimum of 72-hours prior to any lampricide treatments to tributaries which drain directly to Presque Isle Bay.
24. Conneaut Creek, Crooked Creek, Cascade Creek, Elk Creek and Twentymile Creek are stocked with trout the day before the opening day of the Pennsylvania trout season each year. The opening day of trout season is always the first Saturday in April (April 6 in 2024). No treatments can occur within 24-hours prior to this pre-season trout stocking and one week after the official stocking has occurred by the PFBC. If subsequent in-season trout stockings occur, avoid treatment the day of stocking and for four days after the stocking. To view the trout stocking schedule, go to www.fishandboat.com
25. Steelhead (smolts) are stocked annually in most named tributaries to Lake Erie. These annual stockings occur from mid-February to early-April. If TFM treatments are to occur during that period on any stream where smolts are potentially planted, coordination with the PFBC and USFWS must occur during this period.
26. Fall season treatments (after September 1st) on any tributary stream to Lake Erie in Pennsylvania needs to be coordinated through the PADEP and PFBC (Bureau of Law Enforcement and Division of Environmental Services) so conflicts with steelhead fisherman can be avoided or minimized. Contact with these two agencies must occur to allow ample time for planning and media consideration.
27. A news release is required prior to any lampricide treatment and should be distributed to all potential media outlets which could include but not limited to local newspapers. Drafting and distribution of the news release should be completed in coordination with the PFBC's Communications Director, Michael Parker (michparker@pa.gov) including review and approval of written content and distribution timeframe. Signage is required to be posted with a notice to treat at all PFBC fishing access areas of the treated tributary, canoe/kayak boat launches, any access points where a primary, boost or volumetric flush application is to occur within a treated waterway.
28. USFWS notice to the public is to include a clear statement that fish caught during and after the lamprey treatment are safe for consumption.
29. All municipalities whose borders are within a stream scheduled for lampricide treatment must be contacted at a minimum of 48-hours prior to any lampricide application.
30. For Conneaut Creek, if salamander mussel Critical Habitat is finalized, the USFWS SLCP will consult with the USFWS Ecological Services Endangered Species Unit for the potential "Take" of that species.

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Anti-Degradation

Treatment area maps, Anti-degradation Module with ABACT and Non-Discharge alternatives were submitted and reviewed.

Public Participation

PADEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, PADEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at PADEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if PADEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Recommendation

I recommend for the NPDES and 91.38 permit renewal to be issued.